AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1.   (Original) A method of performing convolution of a first stream of data with a second stream of data in a vector processing computer system, comprising the steps of:

buffering the first data stream into multiple data chunks;

aligning the data chunks such that a first bit of each data chunk is aligned in the same position within multiple respective vectors;

performing convolution sums on each data chunk simultaneously;

storing the results of the convolution sums of each data chunk as partial solution vectors of an overall solution; and

superimposing the partial solution vectors of each of the convolution sums to achieve an overall solution stream of data.

2.   (Original) The method of claim 1, wherein the step of aligning comprises storing the multiple vectors within a single matrix.

3.   (Original) The method of claim 2, wherein the vectors comprise column vectors of the single matrix.

4.   (Original) The method of claim 2, wherein the matrix comprises 64 elements.

5.   (Original) The method of claim 1, wherein the first stream of data represents a first signal.

6.   (Original) The method of claim 5, wherein the first signal comprises a video signal.

7.   (Original) The method of claim 5, wherein the first signal comprises an audio signal.

8.   (Original) The method of claim 1, wherein the second stream of data represents a second signal.

9.   (Original) The method of claim 8, wherein the second signal comprises a video signal.

10.   (Original) The method of claim 8, wherein the second signal comprises an audio signal.

11.   (Original) The method of claim 1, wherein the second stream of data comprises multiple elements that all have the value of one.

12.   (Original) The method of claim 1, wherein the second stream of data representing a second signal comprises a data stream having a stride length of 7.

13. (Original) The method of claim 1, wherein the step of buffering comprises buffering data into multiple data chunks, each data chunk having a length of 8 elements.

14. (Original) A system for performing convolution of a first stream of data with a second stream of data in a vector processing computer system, comprising:

means for buffering the first data stream into multiple data chunks;

means for aligning the data chunks such that a first bit of each data chunk is aligned in the same position within multiple respective vectors;

means for performing convolution sums on each data chunk simultaneously;

means for storing the results of the convolution sums of each data chunk as partial solution vectors of an overall solution; and

means for superimposing the partial solution vectors of each of the convolution sums to achieve an overall solution stream of data.

15. (Original) A computer readable medium containing a program that executes the following steps:

buffering a first data stream into multiple data chunks;

aligning the data chunks such that a first bit of each data chunk is aligned in the same position within multiple respective vectors;

performing convolution sums on each data chunk simultaneously;

storing the results of the convolution sums of each data chunk as partial solution vectors of an overall solution; and

superimposing the partial solution vectors of each of the convolution sums to achieve an overall solution stream of data.

16.   (New) A vector processing system that performs convolution of a first data stream and a second data stream, comprising:

a memory that receives and stores the first data stream in the form of multiple vectors wherein each vector comprises a respective data chunk of the first data stream with the first bit of each data chunk being aligned in the same position within the respective vectors; and

a vector processor that performs a convolution sum on each of said stored vectors simultaneously with respect to said second data stream, to obtain partial solution vectors, and sums the partial solution vectors to obtain a full convolution result.

17.   (New) The vector processing system of claim 16, wherein said first data stream comprises a video signal.

18.   (New) The vector processing system of claim 16, wherein said first data stream comprises an audio signal.

19.   (New) The vector processing system of claim 16, wherein said second data stream comprises a sequence of elements each having a value of one.